

Figure 1

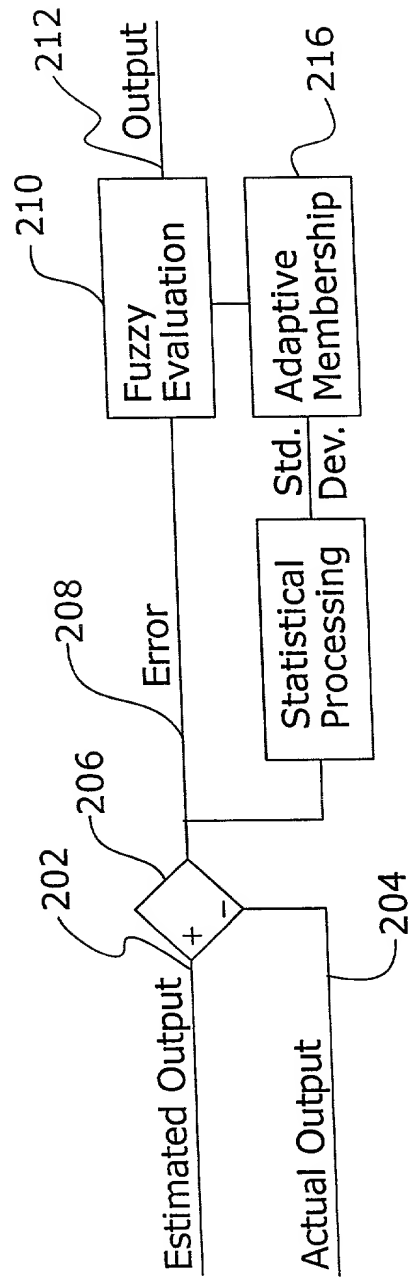


Figure 2

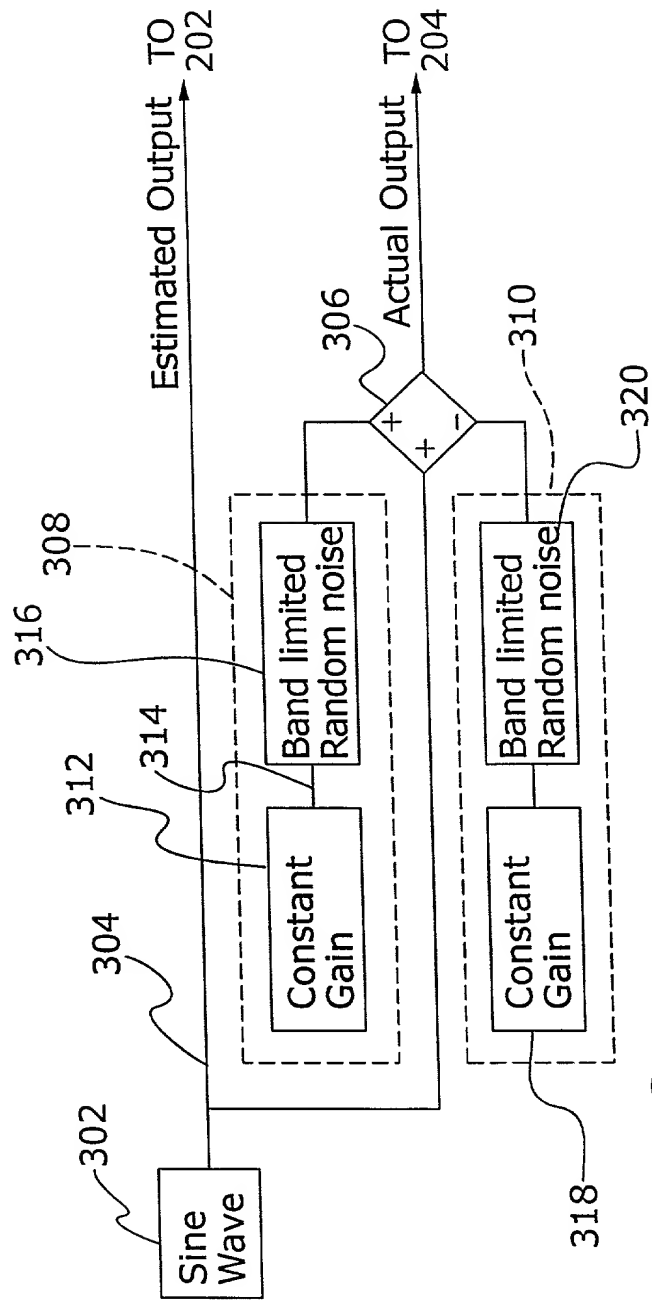


Figure 3

FIG. 4A is a graph of the membership function for the input variable "Acceptably Good". The graph shows a trapezoidal membership function with vertices at -2σ , -1σ , $\mu=\phi$, 1σ , and 2σ . The function is 1.0 at -1σ and 1σ , and 0.0 at -2σ and 2σ . The area under the curve is shaded.

Figure 4A

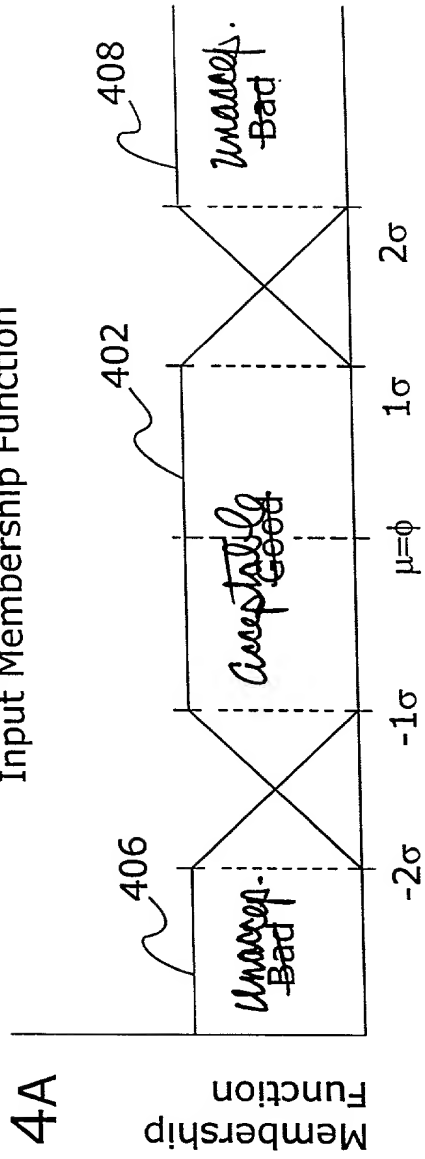


Figure 4B

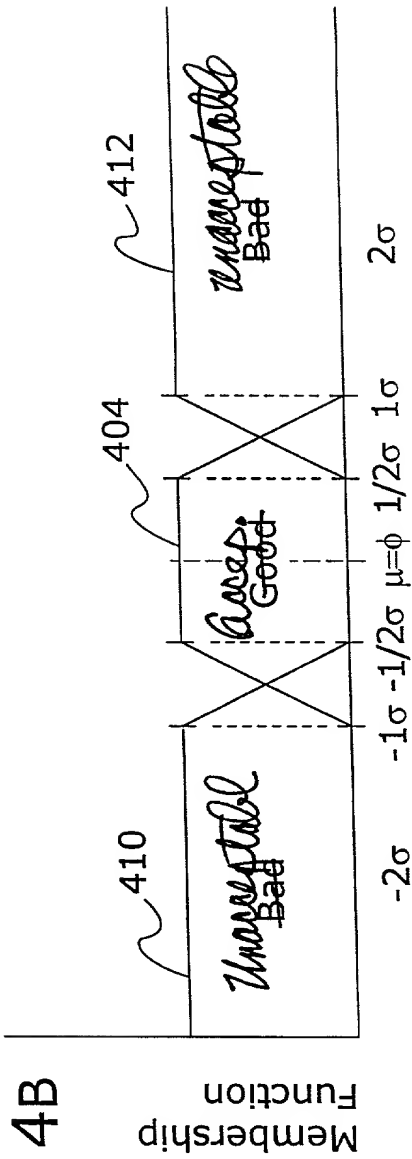


FIG. 5 is a graph showing the relationship between the number of cycles and the number of cycles.

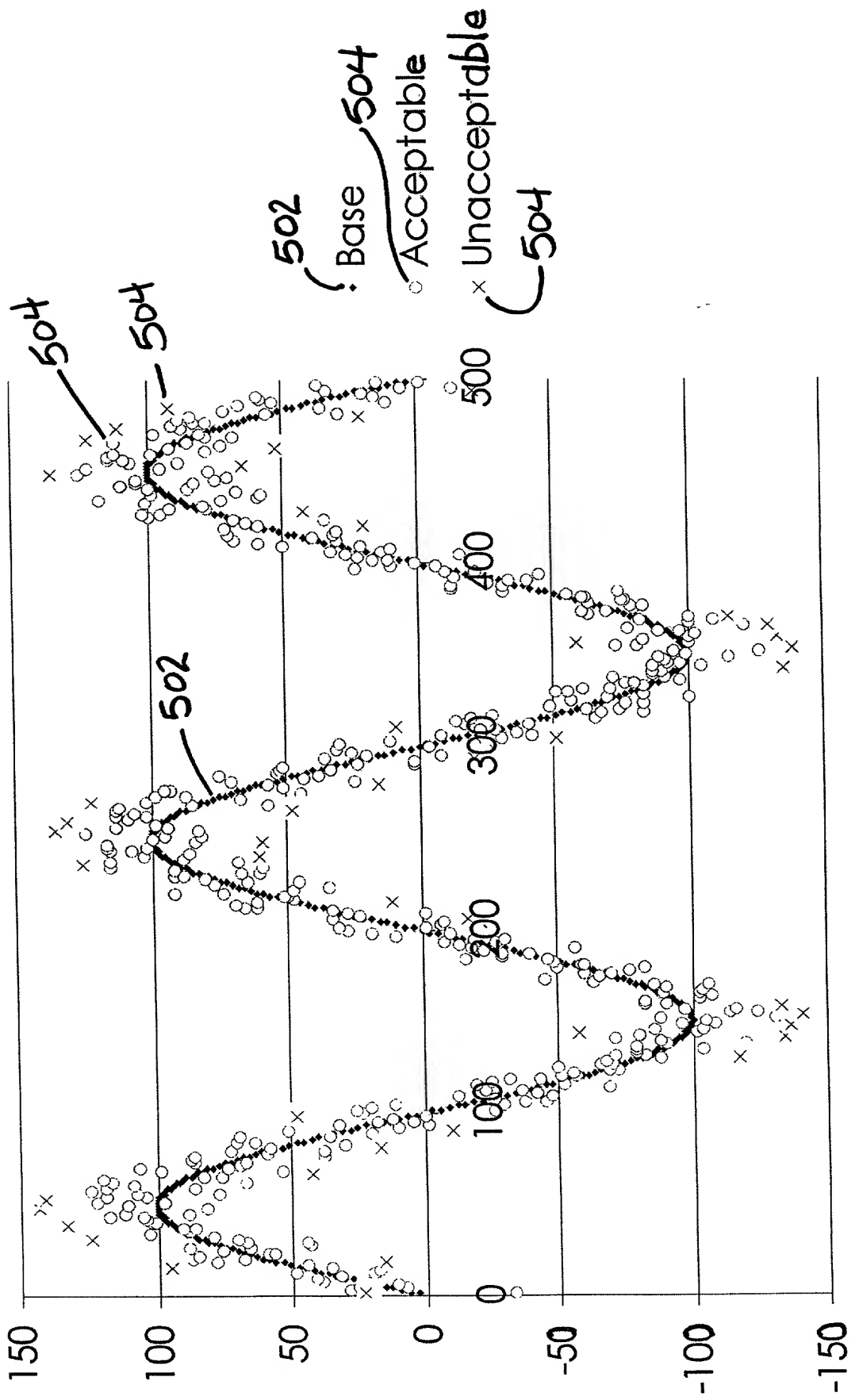


FIG. 5

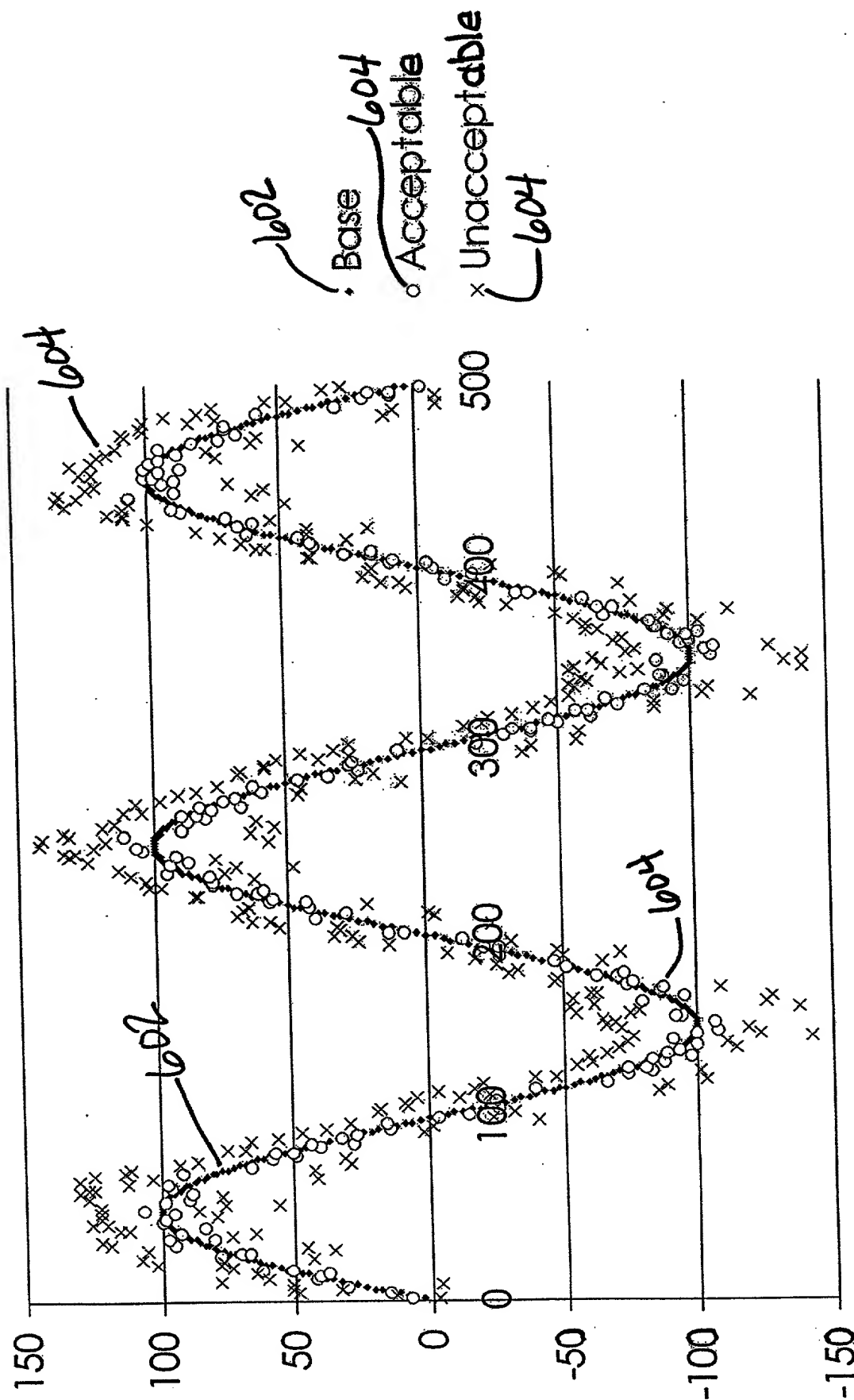


FIG. 6

FIGURE 7

Trial	Acceptance		
	Manual $1C_1\sigma$	$2C_1\sigma$	Fuzzy
Wide Trial 1	288	494	443
Wide Trial 2	323	484	447
Wide Trial 3	323	488	450
Wide Trial 4	381	496	488
Wide Trial 5	284	488	436
Wide Sum	1599	2450	2264
Narrow Trial 1	167	321	222
Narrow Trial 2	174	275	198
Narrow Trial 3	171	290	193
Narrow Trial 4	187	314	216
Narrow Trial 5	166	309	220
Narrow Sum	865	1509	1049
Total	2464	3859	3313

FIGURE 8

Trial	$1C_1\sigma$			$2C_1\sigma$		
	FALSE	TRUE	% Correct	FALSE	TRUE	% Correct
Wide Trial 1	155	344	68.94	51	448	89.78
Wide Trial 2	124	375	75.15	37	462	92.59
Wide Trial 3	127	372	74.55	38	461	92.38
Wide Trial 4	107	392	78.56	8	491	98.40
Wide Trial 5	152	347	69.54	52	447	89.57
Wide Sum	665	183.	73.35	186	2309	92.5
Narrow Trial 1	55	444	88.98	99	400	80.16
Narrow Trial 2	24	475	95.19	77	422	84.57
Narrow Trial 3	22	477	95.59	97	402	82.56
Narrow Trial 4	29	476	94.19	98	401	86.36
Narrow Trial 5	54	445	89.63	89	410	82.16
Narrow Sum	184	2311	92.63	460	2035	81.56
Total	849	4141	82.98	646	4344	87.05